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INEFFECTIVE UTILIZATION OF RESOURCES EXAMINED

Sofia PLANOVO STOPANSTVO in Bulgarian No 4, 1981 pp 53-62

[Article by Velina Baleva and Pencho Ivanov: "The New Economic Mechanism and the Effective Utilization of Material Resources"]

[Text] The effective utilization of raw materials, materials, fuels and energy is a problem which is becoming the focal point of Bulgaria's economic policy. All party decisions related to the development of our economy and to upgrading its effectiveness pay exceptional attention to the rational utilization of material resources. The decisions of the National Party Conference (1978) stipulated that every year outlays for raw materials, materials, fuels and energy must be reduced by no less than 5 percent over and above the state planned figures. The 12th BCP Congress passed a resolution on the development of the raw material-power base as the backup of the entire national economy and defined the basic directions of the work in this area. The problem of rational utilization of material resources is particularly topical in terms of the economic development of our country for the following reasons:

First, in its synthesized aspect production material intensiveness is determined on the basis of the dynamics of the social product and the national income or the relative share of material outlays in the overall public product. In our country the public product is rising faster than the national income. If we take as a base the year 1960 as equaling 100, the public product indicator will be 434.9 while the national income indicator will be 389.8 for 1979.[1] This means that within that period the share of material outlays rose from 56.5 percent in 1960 to 63 percent in 1979.[2]

The increased share of material outlays in the overall public product within that period is related, on the one hand, to the structural changes which took place in the economy in the course of the intensification of the social division of labor and, on the other, the inadequate utilization of intensive economic growth factors and the inefficient utilization of material resources. In our country the share of material outlays for 1975 was 61.4 percent, compared with 58 percent in the USSR and 59.6 percent in Czechoslovakia.[3]

At the current stage of economic development, when the material and technical foundations for socialism have been essentially laid, and when prerequisites exist for the utilization of the achievements of science and technical progress for purposes of intellectualization and comprehensive intensification of public production, objective conditions develop for a relative reduction of material outlays in the cost of the public product and for an increased share of the national income. In turn, this offers greater accumulation and consumption possibilities.

Second, our country is poor in mineral resources and meets most of its needs through imports. "Every year we import huge amounts of petroleum, natural gas, coal, ores, metals, chemicals and many other products. Meanwhile, as a result of substantial shortcomings in the organization of the production process, mainly in the norming of raw materials, materials, fuels and energy needed per unit of output and the use of still imperfect technologies, we incur far higher material outlays compared with the industrially developed countries, rich in natural resources."[4]

In 1979 we imported goods for production purposes worth 6,646,300,000 foreign exchange leva, or 88 percent of our total imports. Labor objects accounted for a considerable share of such imports. We imported 2,101,000 tons of iron ore, 4,580,000 tons of coal (excluding anthracite), 348,700 tons of coke and others.[5]

Third, Bulgaria exports mainly industrial goods (in 1979 it exported 7,369,000,000 foreign exchange leva's worth or 97.2 percent of its overall exports).[6] United Nations data on prices on the international capitalist market show that since 1970 raw material prices have more than tripled, whereas prices of industrial commodities have roughly doubled.

Our country, which has limited raw material and energy sources, faces the major problem of ensuring the most effective utilization of raw materials, materials, fuels and energy. In practice, however, we are spending a relatively higher amount of material resources than do other countries. For example, almost one out of three tons of rolled ferrous metals is turned into waste materials. In the first quarter of 1978 alone steel waste totaled 659,000 tons or as much as the entire output of converter steel produced at the Kremikovtsi Metallurgical Combine. In our country the coefficient of utilization of rolled ferrous metals ranges between 0.50 and 0.55, compared with 0.80 in the USSR and Great Britain and 0.82 in the United States. As a result of this low coefficient a substantial percentage of our metal production and processing capacities becomes involved in the production of waste and defective goods: about 20 to 30 percent in metallurgy and about 35-40 percent in casting and metal processing operations.[7]

In 1976 our energy utilization coefficient in terms of the overall flow of prime power carriers was 10 percent lower than that of the GDR, Czechoslovakia, Hungary, Poland and Romania, and 30 percent lower than that of the most developed industrial countries.[8]

The National Program for the Effective Utilization of Raw Materials, Materials, Fuels and Energy and the Comprehensive Program for the Gathering and Utilization of Secondary Raw Materials were approved in accordance with the decisions of the 11th Party Congress and the July 1976 BCP Central Committee Plenum, as an intrinsic part of the Unified Plan for the Socioeconomic Development of the Country in 1976-1980. The national program, whose purpose is the drastic improvement in the utilization of material resources, on the basis of the accelerated utilization of the achievements of science and technical progress, is expected to yield savings in raw materials, materials, fuels and energy totaling 500 million leva.

The effective utilization of material resources is one of the basic tasks of the Eighth Five-Year Plan as well. The intersectorial target programs for the most efficient and economical utilization of energy resources, metals, chemicals, timber and secondary raw materials will play a major role in its implementation.

In most general terms, the basic factors for the conservation of material resources may be divided into technological and organizational-economic. The first group includes factors related to the further utilization of scientific and technical progress. One of them is improving the design of finished goods, i.e., the creation of goods meeting contemporary production standards such as lighter weights and improved technical and economic parameters. Extensive possibilities exist in this direction. For example, the SS-11-M and S-11-S general purpose lathes we produce weigh from 100 to 250 kg more than similar lathes produced in Czechoslovakia and Austria; the Bulgarian one-ton quadripol electric hoists are 400 kg heavier than the ones which are manufactured in the FRG.[9] Other technological factors are the use of suitable substitutes for raw and other materials in short supply and improvements in the structure of construction materials. In economically advanced countries 10 percent of the overall metal savings are the result of the use of substitutes, compared with 3.7 percent in Bulgaria.[10] In the United States steel accounts for about 60 percent, plastics for 24 percent and aluminum for 7 percent of the overall volume of construction materials used, compared with 80 percent, 1.9 percent and 1.7 percent respectively in Bulgaria.[11]

This groups of factors includes also the fuller utilization of secondary raw materials, a reduction in the volume of defective goods and machine wastes, the use of more progressive production technology and others.

Bearing in mind that about 85 to 90 percent of material savings are achieved in the preparatory production stage--research, design, engineering and development of new technologies (including about 65-70 percent in designing and only 1-12 percent in the course of the production process itself)--we must focus our main attention on improving the scientific and design-engineering activities of engineering-application organizations. The report submitted to the National Party Conference (1978) stressed that "the struggle for the economical utilization of material resources must be shifted above all to the scientific institutes and organizations, development and design units, and technological and design departments of combines, trusts and enterprises. Today we have entrusted the working class mainly with the implementation of this task. However, production collectives and the working class can save no more than 10-15 percent, while the remainder must be saved on the basis of new designs and new technologies."[12]

The organizational-economic group includes all the factors which provide prerequisites for improvement in the socialist organization of labor in the utilization of labor objects, on the basis of the strictest possible regime of conservation, rhythmical and comprehensive procurements, prevention of ineffective substitution for materials, optimization of production reserves, reduction of the volume of rejects, best possible storage of commodity-material values and others. In this article we shall discuss only a few of these factors which are particularly important under the conditions of the new economic mechanism. Improvements in the norming of material outlays play an important role among them.

It was pointed out at the National Party Conference (1978) that a scientific norming base must be created for all management levels. The new planning technology cannot be successfully applied without specific and scientifically substantiated norms governing outlays of labor and material resources per unit of output and without the formulation of combined planning and incentive norms.

The formulation of dynamic standards is still being underestimated at the present stage. Statistical methods are being used mainly in the formulation and correction of outlay norms. Despite their positive features, such methods bring with themselves negative trends from past periods. For this reason, the required levels of material outlays are frequently exceeded.

Delayed norm corrections are another reason for the application of unrealistic outlay norms. Thus, for example, 107 out of the 951 outlay norms which were reviewed at the Economic Chemical Combine in Devnya were lowered in 1979 and 1980, with expected savings in excess of 5 million leva.[13] At the Anton Ivanov refrigeration plant in Sofia outlay norms have not been corrected since 1976.

Until now outlay norms were formulated usually for a given commodity regardless of its weight and consumer qualities. Furthermore, the utilization coefficient of the corresponding material (of metal, for example) was not considered a mandatory norm.

In order to improve results in the future and come closer to the level of rational utilization of raw materials, materials, fuels and energy of industrially developed countries, it would be more expedient to apply both value and mandatory physical indicators in the case of basic raw and other materials, fuel and energy. The new economic mechanism resolves this problem to a large extent with the introduction of the following indicators: marketing of finished goods in physical terms and ceilings of supplies with raw and other materials, fuels and energy and with some scarce machines and equipment, in the case of the economic organizations, and the production of marketable goods in physical terms, based on variety and quality, and normed production costs per unit of output (broken down by item group of items or type of activities) for their branches.

The system of norms must be coordinated more closely with the plan for material and technical procurements. Frequently, the materials received, particularly those based on specifications, do not meet contract stipulations in terms of quality and quantity. This increases rejects and the extent of ineffective substitutions of materials. In turn, this is expressed in cost overruns and, in some cases, in worsened quality of output.

The creation of optimum reserves is another very important matter related to the conservation of labor and materials. The regulation on the specific rules governing the activities of economic organizations and their branches in the material and technical procurement sector, problems of material reserves and their management hold a central position. The maintenance and regulation of material stocks are reorganized on a new basis. The State Committee for Planning and the Ministry of Supply and State Reserves set the norms for reserves by material groups. These norms are mandatory in the establishment of material balances. Minimum stocks of basic groups of materials are the first basic observed indicator used by marketing-procurement and economic organizations in the formulation of their counterplans and in determining its implementation and assessing the results of activities. Hence the great importance ascribed to the problem of optimizing stocks as a major prerequisite in the development of the production process under the conditions of the new economic mechanism.

In this connection, the role of the contractual system is increased under the new economic mechanism. The consuming economic organizations have the right to organize by themselves their own supplies of materials or to entrust this to marketing-procurement organizations which are issued procurement ceilings. This presumes the more flexible and quicker procurement of necessary quantities of materials of specific quality and, therefore, the search for means for their more economical utilization, on the basis of approved norms for raw materials, materials, fuels and energy outlays. This offers increased possibilities of better utilization of materials, for according to the stipulations governing the conclusion of contracts an economic organization cannot include in its plan the marketing of goods not backed by stipulated procurements of basic types of raw materials, materials, fuels and energy. This meets the requirements of the timely coordination between the production program of the economic organization and the required material resources. Furthermore, the conclusion of procurement contracts is possible only when the normative costs of economic organizations have been approved. Quite naturally, the violation of such requirements could seriously disturb the attempts of labor collectives to find possibilities of reducing material outlays.

The 1978 National Party Conference called for enhancing the role of economic contracts so that they may become an active instrument in planned management and the basis in the balancing and formulation of the plan. The importance ascribed to contracts in the course of the formulation and implementation of the plan defines the great responsibility of those who implement them. In the case of damages resulting from the nonfulfillment of contractual obligations the culprits will be held materially liable and will compensate for such damages in full, which may include foreign exchange. The new regulation calls for the obligation of the principle of total compensation for damages, i.e., for losses and for unrealized income. The payment of such fines and damages does not relieve the parties from the execution of the contract, other than in the cases stipulated by the Council of Ministers.

There are two sides to increasing the effectiveness of utilization of material resources. On the one hand, in the course of the formulation of counterplans and engineering projects, conditions must be created for the fullest possible discovery of reserves as a result of the use of new equipment and technology, improvements in the production structure, the fullest utilization of the achievements of science and technical progress and so on; on the other hand, we must develop the part of organization in the course of the implementation of the plan which will not only ensure the implementation of assignments but their overfulfillment as well.

Under the conditions of the new economic mechanism it is particularly important to discover additional opportunities in the course of the formulation of the counterplans, with a view to their systematic utilization. This is assisted by the system for the formation of the income of economic organizations. When the overall distribution income of economic organizations in industry is formed, material outlays as well as funds paid out as fines, damages and others are subtracted from the revenue. This amount is corrected by the financial result of exports and assistance granted to economic organizations. This provides the income from economic activities, to which we add price bonuses granted by the state budget or the ministry. The result is the overall income for distribution in the unit. Consequently, the lesser the material outlays are, which are the main item deducted from the revenue, the higher will be the amount of income for distribution and the resulting wage fund.

The inefficient utilization of material resources will reduce the overall income of the units and economic organizations and, correspondingly, lower the consumption income and the amount of wages earned by workers and employees.

The engineering-application organizations face major tasks at the present stage. Together with the production units they must formulate specific measures for the reduction of material outlays with a view to increasing overall earnings, including the consumption income.

The use of the normative value indicator per unit of output in physical terms, as the basic economic lever used by the economic organizations, is a factor which will yield considerable savings in material resources in the course of the formulation of the plan for the computation of realistic norms. Since the norms governing outlays of individual production resources and the planned computation of normative production costs per unit of output are formulated by engineering-application organizations and by the production units of the respective economic organization, the development of an integral system of material and moral incentives for the application of scientifically substantiated norms is a mandatory prerequisite in the utilization of material resources. The desired results will not be achieved unless the engineering and application organizations are sufficiently interested in the utilization of the latest scientific and technical achievements in a given area.

No less important is the significance of post-planning economy, i.e., of above-planned economy. The established normative cost per unit of output is a long-range norm which can be changed by the economic organization throughout the year only if production conditions or prices of raw materials, materials, cooperated items and complements used in a given production process have changed. Additional possibilities of reducing production costs, discovered and utilized by the production units, cannot be taken from the economic organizations by lowering the normed cost stipulated in advance in the plan or through mandatory planned assignments, norms and ceilings. In such cases the production units themselves must amend their internal norms.

The assets for the wage fund of production units will be increased by 30 to 40 percent of savings in material resources. Should the opposite trend prevail, these assets will be reduced by a certain percentage of the cost overruns for materials, consistent with the share of the wages in the normative production costs.

However, an essential problem arises here: what to do if, in the course of the formulation of engineering and counterplans, existing reserves are not identified, whether consciously or subconsciously, possibilities remain unused and no scientific norms are formulated, as a result of which additional "substantial savings" appear in the course of the implementation of the plan. Is it proper in such cases for a certain percentage of the above-planned "savings" to remain at the disposal of the economic organizations?

Should such "savings" become apparent, the corresponding superior organization should determine whether or not true savings have been achieved, i.e., whether or not the savings are the result of changed production conditions which could not have been anticipated in the plan or if such savings have been easily achieved as a result of deliberately established possibilities in the course of the elaboration of the counterplan. This may result in cost overruns rather than savings, but in a lesser amount than the planned figure. If the economy is real, most of it could be left at the disposal of the enterprise and used for the payment of one-time bonuses to those who have taken part in its achievement. If it is unreal, i.e., if it is the result of unjustifiably high norms included in the plan, it should be taken by the superior organization in its entirety.

The problem of the lowering of material outlays is comprehensive. It covers all aspects of the activities of economic organizations and their branches. We have not covered all problems related to the economical utilization of raw materials, materials, fuels and energy. A number of problems must be resolved at all levels and economic managements in order for Bulgaria to reach the level of countries developed in this respect.

FOOTNOTES

1. "Statisticheski Spravochnik" [Statistical Reference]. Published by KESSI, Sofia, 1980.

2. Ibid.

3. T. Angelov, "Problemi na Natrupraneto v NRB" [Problems of Accumulation in the Bulgarian People's Republic], Sofia, 1979, p 140.

4. T. Zhivkov, "Za Usuvurshenstvuvane na Sotsialisticheskata Organizatsiya na Truda i na Planovoto Rukovodstuo na Ikonomikata" [On Improving the Socialist Organization of Labor and Planned Economic Management]. Partizdat, Sofia, 1978, p 24.

5. "Statisticheski Spravochnik" [Statistical Reference]. Published by KESSI, Sofia, 1980, pp 161,166-167.

6. "Statisticheski Spravochnik" [Statistical Reference]. Published by KESSI, Sofia, 1980, p 162.

7. IKONOMICHESKI ZHIVOT, No 44, 1978.

8. P. Kutov, "Energy Effectiveness of the National Economy and Factors for Enhancing It," IKONOMICHESKI ZHIVOT, No 48, 1978.

9. St. Vulchanov, "Intensifikatsiyata--Strategichesko Napravlenie na Ikonomicheskoto Razvitie na NRB" [Intensification--A Strategic Direction in Bulgarian Economic Development]. NI, Sofia, 1978, p 38.

10. Ibid.

11. IKONOMICHESKI ZHIVOT, No 44, 1978.

12. T. Zhivkov, op. cit., p 25.

13. IKONOMICHESKI ZHIVOT, No 8, 1979.

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BULGARIA

ACHIEVEMENTS, NECESSARY MEASURES TO IMPROVE TRANSPORTATION SYSTEM

Sofia PLANOVO STOPANSTVO in Bulgarian No 4, 1981 pp 63-69

[Article by Senior Scientific Associate Yordan Savchev, candidate of economic sciences: "Some Trends in the Development of Scientific and Technical Progress in Transportation"]

[Text] In building mature socialism the material and technical base develops rapidly and dynamically. This faces the transportation system with great responsibilities and tasks related to ensuring the haulage of import-export and domestic goods and meeting the transportation requirements of the working people. The main task of the transportation system is to ensure proper transportation for the national economy, reduce the time needed for the delivery of goods and the transportation of passengers and to contribute to upgrading social production effectiveness. The qualitative implementation of transportation tasks depends on the extent to which the achievements of the scientific and technical revolution are applied.

The application of technical novelties in the transportation system is of strategic importance, for it influences the effectiveness of production activities not only in transportation but throughout the national economy. That is why the material and technical base must be developed on the base of the achievements of science and technology and the needs of the national economy for transport services.

The main trends of technical progress in transportation consist of the use of new transportation facilities and their updating (locomotive engines, railroad cars, motor vehicles, trailers, ships and airplanes), the electrification and doubling of railroad tracks, the use of automation and remote control equipment in railroad transportation, the automation of the transportation process and its cybernetization, the mechanization of loading, unloading and repair activities, and the extensive use of computers in the organization and management of the Integrated Transportation System (ETS) of the country.

In the period under consideration (1970-1979), the share of capital investments in transportation, in terms of overall capital investments in the country, showed a considerable increase: from 7.8 percent in 1970 to 12.5 percent in 1979. Again in 1979 the amount of capital investments in the development of the integrated transportation system was 349 percent higher compared with 1970 and 130 percent compared with 1975. This increase was the result of the steady growth of the transportation requirements of the country, of increased haulage and passenger transportation above all.

The share of renovation of productive capital[1] in transportation ranges from 6.7 percent in 1971 to 10.9 percent in 1975 and 7.7 percent in 1979. Broken down by type of transportation, the renovation percentage was as follows: railroads, from 5.9 percent in 1970 to 6.0 percent in 1979; automotive transportation, 14.9 percent and 16.4 percent; water transport, 4.7 and 6.3 percent; and air transportation, 11.8 and 5.2 percent.

The efficient allocation of capital investments, based on anticipated freight and passenger volumes of transportation, will ensure accurate intrasectorial proportions in the development of the material and technical base of each type of transportation. The problem of the development of the material and technical base of transportation both in general and by individual type, is comprehensive. It covers intrasectorial proportions for each type of transportation and the other material production sectors. This circumstance requires the strict observance of stipulated norms and interdependencies among the individual elements in the development of the integrated transportation system. These ratios are theoretically known and proved. However, in practice they are not entirely applied, as a result of which, occasionally, an ineffective infrastructure develops as a result of which available productive capital and newly installed production capacities are used ineffectively. That is why the planning of capital investments must be based on the needs for the development of the material and technical base in order to reach the necessary volumes of transportation, achieve internal proportionality in the development of the individual elements of the transportation system and the building of an effective infrastructure in accordance with the development of social needs, the economic possibilities of the country and other requirements of scientific and technical progress.

Despite the successes achieved in the application of scientific and technical achievements in the rolling stock and its specialization, exploitation and management, important problems must be resolved related to the modernization of repair facilities and loading and unloading activities, and the increased handling and transportation capacities of the system. That is why, in the Eighth Five-Year Plan the application of technical progress must cover the development of electronics and robotics and the use of laser equipment in transportation. The use of transportation cybernetics, based on the latest achievements, is one of the main directions of scientific and technical progress and an important reserve for upgrading transport effectiveness.

So far, no robotics has been applied in transportation. In the period through 1985 loading and unloading operations in a pilot railroad station will be automated on the basis of first and third generation robots. In automotive transportation loading and unloading activities (TRD) will be automated at a pilot site on the basis of third generation integrated robots.

Laser technology offers extensive application possibilities in transportation through 1985. Laser systems with local communication and dispatcher systems will be applied in railroad transportation. A dispatch and control system will be installed in a pilot automotive project, together with a data transmission system. A local dispatch and control and data transmission systems will be installed in a pilot port. Laser equipment will be used in air transportation for automatic weather forecasts and others. Some problems related to the condition and trends of application of the achievements of technical progress in the various transportation systems are discussed in the present article.

In the period under consideration, despite the use of new highly productive technology in the transportation of a number of bulky and labor intensive freight and and the increased share of specialized railroad cars and of the automation and mechanization of freight processing, a lagging in the application of the achievements of technical progress is taking place in the railroad transportation system. In order to surmount it in the development of the material and technical base of railroad transportation and in its infrastructure, and on the basis of the decisions of the July 1980 BCP Central Committee Plenum and December 1980 BCP Central Committee Politburo on the further development of railroad transportation, the tracks will continue to be electrified and doubled at a faster pace; electronics, automation and remote control equipment will continue to be installed; railroad stations will be reconstructed and tracks will be repaired. The reorganization of the traction power has been completed with the total conversion to electric and diesel power. Between 1976 and 1979 316 km of railroad tracks were electrified and 13 base railroad stations were reconstructed.

An important current task in railroad transportation is to increase the handling capacity of the main railroad lines which link the major economic centers (areas), port complexes and conurbation systems by doubling and electrifying railroad tracks and installing electronic facilities along the entire railroad network.

In the period under consideration the handling and hauling capability of the northeastern and northwestern parts of the country proved to be insufficient to absorb the existing freight volume. The delayed doubling of the main railroad tracks delayed the transportation of freight and necessitated the use of other transport facilities.

The length of electrified railroad tracks reached 33.4 percent of the overall network while the doubling of electric tracks reached 10.1 percent of the overall railroad network.

In addition to increased hauling and handling capacity, achievements in technical progress are manifested in the development, reconstruction and modernization of the rolling stock.

Technical progress in railroad transportation is manifested also in the extent of automation and remote control facilities. In the period under consideration centralized routing-relays have almost tripled. The number of automated systems at railroad crossings was increased considerably.

Despite the increased number of heavy duty machinery for track repairs, the level of mechanization and automation has still not reached the necessary level. This circumstance requires the further installation of modernized technical facilities and the use of new technology for high grade repairs and maintenance of railroad tracks.

Technical progress is manifested in the concentration and specialization of loading and unloading activities as well. The extent to which the railroad cars are used depends on the nature of the mechanical facilities used in loading, unloading and reloading operations. Freight car idling for loading and unloading operations has shown an unfavorable rising trend: from 17.8 hours in 1970 to 20.7 hours in 1979. This has increased freight car turnover time from 84 hours in 1970 to 95 hours in 1979. This adverse trend is the result of the virtually unchanged level of mechanization of loading and unloading operations, which equalled 62.6 percent between 1976 and 1979. The reasons for this lag are complex. They can be eliminated with the help of the shippers (respectively, the receivers). We must resolve, above all, problems related to determining the nature and volume of the freight hauled, the specialized rolling stock needed for this purpose and the possibility of making extensive use of containers, pallets and packages in freight hauling.

Between 1970 and 1979 the material and technical facilities in automotive transportation were updated steadily, as a result of which trucking accounted for 90 percent of the freight hauled in the country. The decentralized development of trucking does not make it possible to coordinate efficiently the work of departmental and public use transportation facilities.

Between 1971 and 1978 substantial concentration was achieved in the trucking system. More than 2,000 small automotive enterprises were closed down. Savings from the concentration of trucking facilities totaled 40.2 million leva in 1976, compared with 1975, and 31.4 million leva in 1977 compared with 1973. Furthermore, this considerably reduced the need for capital investments for new rolling stock, as a result of which 27.9 million leva were saved in 1976 and 22.4 million in 1977. This means that in 1976-1977 the freight was hauled with 4,400-5,400 less trucks, which saved 36,000 tons of fuel and the work of 10,850 drivers. That is why the concentration of trucking must remain the basic direction in the development of technical progress.

Technical progress in automotive transportation was manifested also in the changed structure of the rolling stock and in the increased number of specialized automotive vehicles. The percentage of specialized public use trucks increased. The favorable trend of increasing truck specialization must continue. The number of dump trucks and other specialized trucks hauling petroleum, panels, concrete, grain, furniture and other commodities must be increased in accordance with the trends in the development of the volumes of freight requiring special transportation conditions.

The ratio between gasoline and diesel powered automotive vehicles in the overall number of public use trucks changed considerably in the period under consideration. The share of gasoline powered trucks showed a positive declining trend from 54.5 percent in 1970 to 44.7 percent in 1979, whereas a favorable rising trend was shown in the case of diesel powered trucks, from 45.5 percent in 1970 to 55.3 percent in 1979.

This initiated process of converting motor vehicles to diesel fuel must be continued in connection with the energy crisis. The share of diesel trucks must reach 65-70 percent in 1985. The average freight hauling capacity of the automotive vehicles rose considerably as the result of the increased number of diesel powered vehicles (trucks and trailers) and the improved internal structure of the automotive fleet.

The problem of increasing the average hauling capacity is related to the use of trailers and the increase of their hauling capacities. In the period under consideration there were 29.9 trailers in 1975 and 27.4 trailers in 1979 per 100 public use trucks. These data indicate that possibilities exist of increasing the hauling capacity of the automotive fleet through the use of trailers, whose number per 100 trucks should reach 75-80 in the Eighth Five-Year Plan.

The increased freight capacity of the vehicles and trailers depends on the development of the road system and its freight sustaining capacity.

Between 1970 and 1978 there was an insignificant increase in the length of automotive roads. The road system will be improved considerably and opportunities will be created for increasing truck hauling capacity with the completion of the Trakiya, Khemus and Cherno More highways.

The future changes in the structure of the automotive fleet will depend on the practical utilization of the achievements of technical progress in the area of energy sources.

The creation of an integral centralized system for vehicle maintenance and repair in the country, greater availability of spare parts and the comprehensive use of the machine-unit method in repairs and technical diagnosis, as well as the development of machine unit specialization in all repair (automotive) plants is a major direction of technical progress. In the period under consideration material and technical facilities for technical servicing and operational repairs and for service-garage operations were inadequate. That is why in the Eighth Five-Year Plan we must broaden the technical base for the maintenance and repairs not only of public use motor vehicles but of private passenger vehicles as well.

The achievements of technical progress have still not been comprehensively applied in loading and unloading operations. The extent of their mechanization rose from 43.6 percent in 1970 to 63.3 percent in 1979 (excluding dump trucks). The average duration of a loading and unloading operation for one ton of freight has been increasing rather than decreasing from 0.63 to 0.80 hours. One of the main reasons for the increased time per loading and unloading operation is the low level of utilization of containers, pallets and packages in freight hauling. The share of freight hauled in consolidated freight units was 0.9 percent for containers, 0.9 percent for pallets and 0.5 percent for packages in 1979. This is extremely insufficient.

A number of achievements of scientific and technical progress were applied in maritime and riverine transportation between 1970 and 1979. The tonnage and capacity of maritime ships were raised and economical speeds were established for motor ships, as a result of which most efficient navigation systems were used. Particular attention is being paid to the proper maintenance of ship fuel systems and boilers which use the heat of the burned gases released by internal combustion engines. Furthermore, studies have been undertaken on the utilization of turbogenerators which will replace diesel generators in big ships. The maritime fleet was substantially renovated and the growth register capacity of the ships was increased.

As a result of the new specialized and other ships which were procured, the overall capacity of the available ships was increased. The average freight capacity of the ships rose as well. Thanks to the new technology and equipment used by the repair shipyards the percentage of bulk freighters undergoing repairs was lowered (in terms of freight capacity). The use of new technologies for the transportation of freight in containers, pallets and lighters is a major direction of technical progress in maritime transportation. This considerably increased the turnover possibilities of the rolling stock and made the comprehensive mechanization of loading and unloading operations possible. The level of loading and unloading mechanization rose from 56.2 percent in 1970 to 84.2 percent in 1979.

The commissioning of the Varna-Ilichevsk ferryboat is a very high achievement of technical progress in maritime transportation. It is of great importance to the entire national economy. It helps us to avoid reloading operations at maritime ports, considerably increases the speed of freight deliveries and lowers the operational expenditures.

Modern self-propelling and nonself-propelling freighters and passenger ships, including hydrofoils, were introduced in riverine transportation. The freight capacity of the available ships rose by 59.1 percent. The use of shaft generators, which produce electric power, rather than diesel generators in daytime sailing was extensively introduced in river ports. Furthermore, gasoline engines in support facilities are being replaced by diesel and gasoline five-ton automatic loaders with three-ton diesel loaders and diesel automotive cranes. This led to a considerable reduction in fuel and operations expenditures.

As a result of the new freight hauling technology introduced in riverine transportation, the extent of comprehensive mechanization of loading and unloading operations rose considerably from 79.2 percent in 1970 to 95.8 percent in 1979.

In air transportation technical progress is manifested in the use of new model aircraft and technologies and improvements in servicing equipment. The most significant accomplishment was the renovation of basic productive capital in 1976-1978, when heavy duty jet propelled aircraft and the Gabriel passenger reservation and chekin passenger service system were introduced.

Taking the short traveling distances into consideration within the country and in order to meet the steadily growing domestic travel needs, a certain number of helicopters will be procured and proper landing pads will be built. Along with the modernization of the aircraft fleet we must pursue the automation of technical services of airplanes, airports and passengers.

The proper solution of the problems related to the application of the achievements of technical progress in the development and modernization of the material and technical transport facilities will determine the quality, promptness and effectiveness of transport activities. The comprehensive utilization of scientific and technical achievements and of leading experience in all types of transportation, based on the needs of the national economy, will enable us to implement the party's decisions on the further development and improvement of our country's transportation system.

FOOTNOTE

1. The "renovation percentage" is a computation indicator which is the ratio between installed productive capital and available productive capital at the end of the period. The data on the installation of the various types of productive capital were borrowed from the statistical yearbooks of the Bulgarian People's Republic for the respective years.

5003
CSO: 2200/108

POSSIBILITIES OF INCREASING GRAIN PRODUCTION

Sofia PLANOVO STOPANSTVO in Bulgarian No 4, 1981 pp 15-22

[Article by Docent Gat'o Gatev, candidate of economic sciences: "Intensive Development and Planning of Grain Production"]

[Text] Grain production is of very great importance in the implementation of the party's December program of raising the living standard of the people and meeting their requirements for bread, grain goods, meat, milk, eggs and others. The theses of the 12th BCP Congress emphasize that the fast increase in the production of grain and the most efficient utilization of it must become the strategic task of the Eighth Five-Year Plan.

At the end of last year the BCP Central Committee and the Council of Ministers passed a decree which called for a new upsurge in grain production and effective utilization. The main task is for the annual output of grain for food and fodder to reach the level of 10.5-11 million tons, and about 1,200 kg per capita, in the Eighth Five-Year Plan. This immediate task is difficult and responsible. It is also realistic, for the last decade (the Sixth and Seventh Five-Year Plans) proved that actual possibilities existed for increasing rapid grain production for food and fodder.

Prior to the conversion of agriculture to a socialist base grain production developed mainly extensively. This also predetermined its position in the utilization of the cultivated area. Grain crops (for food and fodder) accounted for a substantial percentage of the arable land. In 1939-1940 63.4 percent of the arable land was in grain crops. In 1976-1979 areas in grain crops (food and fodder) accounted for about 47 percent of the arable land. Despite the reduction in the size of the areas in grain crops the amount of grain was considerably higher both in terms of absolute figures and on a per capita basis. All this indicates that in the past few five-year plans grain production has been developing intensively.

The intensive development of grain production is related to the steady application of scientific and technical progress in practical work. As a result of this, in recent years and in terms of average yields of basic grain crops (wheat, corn and barley), Bulgaria has been one of the ten countries in the world with highly intensive grain production. The short period of development in this direction proved that in the future intensification would be the main trend followed in the solution of the major problem set by the 12th Party Congress in terms of grain production.

It is planned that in the next few years the National Agroindustrial Union (NAPS), the okrug agroindustrial unions (OAPS), the APK [Agroindustrial Combines] and the other agricultural organizations will develop another two million decares of neglected arable land on which feed and food grain will be planted. This is a reserve which will also enable us to obtain additional amounts of grain. However, the bulk of the increase will be secured through grain production intensification.

Most of the country's territory is adequate for the cultivation of grain crops and for obtaining high and stable average yields, from the viewpoint of soil and weather conditions. In recent years, the Seventh Five-Year Plan respectively, Razgrad, Ruse, Tolbukhin, Silistra, Varna and Shumen Okrugs, all of them in Northeastern Bulgaria, acquired a firm reputation as masters of high grain crop yields. They obtained high average yields per unit of area in basic food and fodder grain crops such as wheat, corn and barley. The APK on Razgrad Okrug territory are leaders in the production of food and feed grain. In 1979 and 1980 they harvested more than 500 kg of wheat per decare, while their leading brigades engaged in industrial grain production averaged 650 to 700 kg of grain from their areas. The average yields of the basic feed crop--corn--were also high. In 1979 Razgrad Okrug APK and other economic organizations averaged 698 kg per decare, followed by economic organizations in Ruse Okrug--681 kg--whereas the national average was 508 kg of corn per decare. These data indicate that the subjective factor, the organization of labor and scientific planning, the formulation of properly balanced counterplans by the APK in grain production and their implementation are of prime importance in the reaching of high yields. Could it be that these okrugs alone in the entire country can obtain such high yields from basic feed and food grain products? Similar objective conditions may be found in other okrugs as well. All this indicates that the successes achieved in grain production for the country at large are below the existing good objective possibilities offered by socialist agriculture.

Some shortcomings were allowed to occur in the Seventh Five-Year Plan in the area of grain production. They were mainly of a subjective nature. Objective reasons existed as well, such as droughts, hails and others, which prevented the regular growing of stable and high yields. Consequently, a tension developed frequently, particularly in terms of feed grain for the productive cattle.

The basic conclusion of our study of results and weaknesses allowed in our grain production is that the necessary conditions and possibilities exist of increasing the grain volume by 2.5-3 million tons or by no less than 250-300 kg per capita in the Eighth Five-Year Plan. This will place the country in one of the leading positions in the world in per capita grain production. Such an increase in grain production will meet the requirements of the national economy and ensure the necessary food and feed grain reserves. The main prerequisites for the implementation of this major, important and realistic task are the following:

a. The very favorable soil and weather conditions for growing basic food and feed grain crops such as wheat, corn, barley, soy beans and others. This is very important, for it enables us to develop a highly effective grain production with high labor productivity and low production costs per ton of feed and food grain;

b. The existing material and technical base, which includes modern and highly productive machines, and the high level of concentration already reached. Large areas have been set aside for the planting of wheat, corn, barley and others. This enables us to ensure the fuller utilization of the production capacities of modern equipment;

c. The rich biological stock developed by Bulgarian and foreign selection workers, based on the development of hybrids of highly productive and high quality strains for all basic grain crops, wheat and corn mainly;

d. Scientific and technical progress has already developed highly productive industrial technologies for the growing of food and feed grain. The new brigade organization of labor, which consists of industrial grain production brigades, offers also great opportunities for the production of more grain with higner labor productivity and lower production costs per ton of food and feed grain;

e. The rapid growth of the cadre potential of specialists, agronomists, mechanizers and skilled production workers who are reaching high feed and food grain yields per unit of area is yet another important prerequisite for the solution of this major problem.

As we emphasized, the main direction which must be followed in increasing the production of food and feed grain is that of intensive development. The inclusion of new areas to be planted in grain crops will be an additional reserve. However, it cannot determine the future development of grain production. The main directions for intensive grain production at the present stage and through 1990 are the following:

First, the accelerated development and modernization of the material and technical base of grain production, with a view to the comprehensive use of complex mechanization both of basic and auxiliary processes in grain crop growing. The BCP Central Committee and Council of Ministers decree on a new upsurge in grain production and the effective utilization of the grain draws the attention mainly to ensuring the availability of the necessary number of powerful tractors for the cultivation and deeper plowing of the soil, sowing machines for precise and direct sowing and highly productive combines for harvesting the crops on time and without losses. It is no secret that as a result of unsuitable harvesting equipment, low work standards and other reasons the national economy loses thousands of tons of feed and food grain per year. Such considerable losses can be overcome through the extensive application of more advanced harvesting equipment. Such machines must be procured from the fraternal socialist and some developed capitalist countries, on the one hand, and through manufacturing in our agricultural machine building plants. The capital investments of the APK and the other agricultural organizations for purchasing modern and highly effective equipment will ensure higher yields and reduce grain losses in mechanized harvesting.

The second trend in the intensive development of grain production will be the comprehensive use of new technologies in the Eighth Five-Year Plan and through 1990. This must bring about qualitative changes in the entire farming system, from the cultivation of the soil to the harvesting and utilization of the finished product.

Minimum of zero cultivations are considered among the most important accomplishments of scientific and technical progress in farming, in grain production most of all. The BCP Central Committee and Council of Ministers decree on the new upsurge in grain production and its effective utilization stipulate that this very year new and more effective systems for the cultivation of various soils will be applied, based on the recommendations of scientific institutes and the positive experience acquired by front-ranking APK and other agricultural organizations in the country. According to the Wheat and Sunflower Institute, which is located near General Toshevo, minimum or reduced cultivation of the soil in wheat growing lowers the volume of mechanized operations by 78 percent; of fuel expenditures, by 83 percent; and of labor outlays, by 84 percent. Meanwhile, yields rise by 10 to 15 percent compared with conventional cultivation methods. Such results must be applied and expanded in the production of food and feed grain.

The third important direction in the intensification of grain production is the application of more fertilizer and preparations and their effective utilization. The comprehensive use of chemical and natural fertilizers is an important resource in obtaining an additional amount of grain per unit of area and increasing per capita grain production. The production of additional quantities of grain per kg of fertilizer or of chemical means for the struggle against pests, diseases and weeds must be used as a criterion of the effectiveness of chemization.

In the years to come we must surmount our country's lagging compared with the developed countries by ensuring the total satisfaction of grain farming requirements with fertilizers, preparations, stimulators, and so on, in accordance with scientifically substantiated norms. The most immediate task formulated by the party and the government is that of resolving the problem of the struggle against weeds in grain crops entirely and comprehensively in the first and second years of the Eighth Five-Year Plan. Our chemical industry must produce the proper quantities of weed-killing herbicides.

The first direction which must be followed in grain production intensification is the more effective utilization of irrigated land. A substantial percentage of the arable area--about 24 percent--is already irrigated. The irrigated areas must be used for the growing of crops which react most tangibly to water. In the Seventh Five-Year Plan about 85 to 90 percent of the irrigated areas were used. However, essentially as a result of irregular watering and fertilizing and inadequate struggle against weeds, many APK failed to reach their planned yields. The proper grain crop structure provides an additional opportunity for obtaining additional amounts of grain. Among grain crops corn reacts most strongly to water. Under irrigated conditions average corn yields may double. Furthermore, the sowing of the autumn crops on irrigated areas creates the possibility of raising second crops, mainly corn, which is used for silaging in its mid-wax state of maturity. Additional grain quantities may be ensured also by planting early ripening corn strains. Last year, an average of 374 kg of grain per decare was obtained by planting corn as a second crop on the experimental field of the Crop Growing Chair of the Vasil Kolarov Higher Agricultural Institute in Plovdiv.

Selection is the fifth direction in grain production intensification. As a result of systematic and consistent efforts Bulgarian and worldwide grain farming have developed a considerable biological stock with great potential. This wealth of plant resources is not adequately used in our country. The decree on increasing grain production and effective utilization calls for the concentration of research and application activities,on raising the standard in the selection of grain and feed crops and the creation of new hybrid strains which are comprehensively resistant, have a shorter vegetation period and improved qualities and amino acid structure of the grain, suitable for the use of industrial technology. The application of new Bulgarian and foreign strains and hybrids with a short vegetation period and valuable biological and economic qualities is an important agricultural resource.

Such are the more important trends in grain production intensification at the current development stage. The comprehensive utilization of these directions will yield even better results in the production of feed and food grain.

The APK and the other agricultural organizations are working on the successful solution of the problem of increasing grain production. The formulation of the annual and five-year plans of the APK and the other agricultural organizations and their branches and the application of the new brigade organization of labor are important in this respect. The new planning technology provides a dialectical unity between centralized planning and the elaboration of the counterplans of economic organizations and their branches.

One of the central problems is that of the new technology of grain production planning. It covers the formulation and adoption of counterplans by APK and other agricultural organizations and enterprises. The counterplan is an overall development program which includes grain production assignments, based on the state plan, broken down by APK and other individual agricultural organizations. Furthermore, the counterplans must mandatorily bring up internal production reserves, based on engineering plans. They offer the possibility of overfulfilling the task and allow the organizations a free hand in the disposal of their surplus goods.

The engineering plan assumes exceptional importance in the formulation, adoption and ratification of the counterplan of the APK or any other agricultural organization. It includes draft norms and standards governing the utilization of the land, equipment, productive capital, seeds, fertilizers, preparations, fuels and lubricants and others. Furthermore, the engineering plans must include the use of potential high yielding strains of feed and food grain crops, new industrial technologies for grain production and progressive grain crop cultivation methods. Generally speaking, the engineering plan must reflect the latest and most progressive accomplishments of agrotechnical science in Bulgaria and in other advanced countries.

The draft counterplans [illegible] the APK and the other agricultural organization, which include grain production, must be drafted with the active participation of labor collectives. The collectives are familiar with the possibilities of the land, the equipment and others, which enables them to find additional possibilities most successfully and to enter them in their counterplans. Furthermore, the draft counterplan for grain production must stipulate the fuller utilization of all factors of accelerated intensification and the reaching of higher effectiveness and yields.

The implementation of the task calling for the utilization of about two million decares of neglected land must begin with the formulation of the counterplans which must stipulate the previously unused areas which the APK and the other agricultural organizations must include in their plans, together with the formulation of the grain crop structure in accordance with the specific characteristics of the land. The actual implementation of the counterplan calls for the stipulation of material and manpower resources and of the entire system of agrotechnical measures which must be implemented in the cultivation of the additional areas.

The draft counterplans of the APK and the other agricultural organization, in which grain production must plan an important role, must be submitted to the okrug agro-industrial unions, subsequent to their consideration by the executive committees of obshtina people's councils.

The latter summed them up and compared them against the control figures and balances deemed necessary for meeting the requirements for grain by the okrug and the territory of the conurbation system.

The eventual discrepancies are discussed on the okrug level with the participation of the chairman of APK or other agricultural organizations, representative of okrug departments of economic organizations in charge of material and technical procurements and representative of National Agroindustrial Union. As a result of such discussions proper measures are taken to eliminate disparities by finding new possibilities for raising the necessary amount of grain and securing an adequate amount of land and material and manpower resources.

On the basis of the counterplans of the APK and the other agricultural organizations, which stipulate the quantities of feed and fodder grain, measures are taken to eliminate discrepancies in control figures, after which they are submitted to the NAPS [National Agroindustrial Union]. Consequently, properly formulated counterplans, which include the necessary material and manpower resources and a system of agrotechnical measures, are a firm foundation for the implementation of the major national task in grain production. Balancing is a good beginning. However, it is no more than that. The essential feature in the solution of the major problem is the organization of the implementation of the counterplans with a view to ensuring the full and effective utilization of fertilizers, preparations, equipment and other resources.

The organization of the implementation of the grain production plan must be such as to create possibilities of observing contractual discipline. The new NAPS regulations call for the use of stiff penalties in the case of economic organizations which violate their contractual obligations.

The systematic control over the implementation of the counterplans plays an important role along with their formulation. The organization of the work and the obligation of the new type of brigade organization, based on industrial technologies for grain production, are an important factor in the implementation of the major national task. The brigade organization of labor in grain production ensures the regular implementation of agrotechnical measures and the timely and qualitative harvesting of the grain by the APK and the other agricultural organizations.

The ways and means for the production of more grain are basic problems. Another equally important problem is the effective utilization of the produced grain. According to the decree we mentioned, the National Agroindustrial Union, the APK and the other agricultural organizations must make a decisive change in the utilization of the grain in the production of basic livestock products such as milk, meat, eggs and others. The experience of advanced countries, together with our own living experience, has proved that animal husbandry products can be obtained with considerably reduced outlays of fodder in terms of fodder units. In the next few years, on the basis of proper livestock nutrition, we must gradually reduce fodder outlays by 2.2-2.5 fodder units per kg of poultry meat from broilers, by 3.4-4 fodder units per kg of pork and by 4.5-5 fodder units per kg of veal. The efficient utilization of feed grain is also closely related to its processing by feed combines in accordance with the strict observance of standards and technologies for the manufacturing of rich feed mixes fed to productive cattle.

In conclusion, let us point out that our country has the proper conditions for the intensive development of grain production and for the implementation of the task set by the 12th Party Congress on increasing the volume of output. In the final account, this will have a positive impact on the production of more and better animal husbandry products which are so greatly necessary for the fuller satisfaction of the needs of the population and for raising the living standard of the people.

5003
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TOBACCO, FOOD EXPORTS TO USSR

Sofia ZEMEDELSKO ZNAME in Bulgarian 11 Jun 81 p 2

[Statement by Nikolay Nikolayevich Gusev, representative of the USSR Chamber of Commerce and Industry in Bulgaria, recorded by L. Duleva: "In the First Ten Days of June the Rodopi TK [Tobacco Combine] Shipped Its 250,000th Ton of Cigarettes to the USSR"]

[Text] This remarkable manifestation of the possibilities of our tobacco industry led us to turn to Nikolay Nikolayevich Gusev, the representative of the USSR Chamber of Commerce and Industry in Bulgaria, who stated the following:

According to international statistical data the Bulgarian People's Republic is the seventh biggest producer of tobacco in the world, the tenth biggest producer of cigarettes and the leading country in the world in cigarette exports. Today our country accounts for 25 percent of the overall tobacco production of the CEMA-member countries and for about 40 percent of their tobacco imports.

It is precisely these highly indicative data that explain also the fact that Bulgarian tobaccos account for about 42 percent and cigarettes for about 90 percent of the USSR's imports of such items.

We are currently celebrating a kind of anniversary for Bulgarian exports to our country of cigarettes and tobaccos and of the contribution of the 3000-strong collective of the Rodopi Tobacco Combine in Plovdiv in these impressive figures: 250,000 tons (250 billion regular size cigarettes) and 200,000 tons of tobacco.

This event leads us to consider the role of agricultural products and foodstuffs in our bilateral trade. What do we gather from data in this area?

Foodstuffs and food raw materials showed the second position in USSR imports from Bulgaria. They account for 30 percent of the total. Procurements include substantial quantities of greenhouse and field grown tomatoes, grapes, foods for children, vegetable oils and canned vegetables.

Let us also point out that the Soviet Union purchases from Bulgaria substantial amounts of agricultural equipment, such as tractors, hay mowers, automatic storage containers, and electronic equipment for agricultural machinery. Whereas in the first years which followed the socialist revolution in Bulgaria our exports did not include agricultural machinery, in 1981 8.7 percent of all Soviet imports of agricultural machines and equipment came from Bulgaria. Machine units such as facilities for sunflower seed harvesting, seed crushers, transplanting machines and others are being used successfully in the Soviet Union.

The stability of Soviet-Bulgarian trade relations makes it possible for Bulgaria to build up and develop a number of export lines. The big Soviet market enables Bulgaria to cover the value of goods it imports from the USSR and contributes to the successful solution of many socioeconomic problems.

5003
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STRESS ON ELECTRONIC INDUSTRY DISCUSSED

East Berlin AW DDR-AUSSENWIRTSCHAFT in German 27 May 81 pp 1-2

[Text] The goals set at the Sixteenth Party Congress of the CPCZ [Czechoslovak Communist Party] for the economic and social development of the CSSR in the years 1981 to 1985 make provisions for, among other things, the development on a priority basis of the engineering industry. Thus, the output of the engineering industry, inclusive of electrical engineering/electronics, is to increase by almost 35 percent by 1985, with a special stress on increasing the proportion of high-quality ancillary products. Emphasis has also been placed on developing production in measuring, controlling, regulating, and monitoring technology for the nuclear-power sector, as well as providing modern electronic data processing systems for the management of technological processes. Moreover, in this 5-year plan conditions are to be created for the introduction of automated control systems for the engineering industry. This presupposes first of all an accelerated development of electronics, above all of microelectronics.

Basic provisions for these goals were already laid down at the 14th Conference of the CPCZ Central Committee in December 1979. This conference decided on the formation of an independent industrial branch of electrical engineering/electronics under the management of the Federal Ministry of Electrotechnical Industry. Under this ministry there are seven national enterprises having a total of about 220,000 employees, and in each case these enterprises are specialized in definite groups of products.

In addition to the research and development facilities of the national enterprises themselves, the research and development work of this branch is also based on three independent research institutes. In these institutes, complexes of problems are solved which have a general applicability and whose results can be used in the entire branch. Another task lies in the drawing up of studies on developmental trends in electronics as well as in signal engineering and electric-power engineering.

Structure of the National Enterprises and Research Institutes[1]

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[1] We are publishing a comprehensive survey of the production programs of the national enterprises in our issue No 23/1981.

ZSE Prague

(Zavody silnoproude elektrotechniky--Electric-power Engineering Works)

This production association is one of the largest of Czechoslovak national enterprises in the field of electrical engineering. It is composed of 19 producing firms, 3 supply and assembly firms, 1 commercial enterprise, and 3 research institutes, with a total of 60,000 employees.

Moreover, ZSE Prague has its own foreign-trade enterprise.

The manufacturing program extends from products for the generation, transmission, and distribution of electric power--such as generators, transformers, distribution substations, cables and power lines, as well as switches--beyond a wide variety of types of electric motors and welding equipment, up to electronically controlled driving mechanisms for industrial machinery and traditional drives for cranes, electric locomotives, and trolleybuses.

As for its volume, ZSE Prague accounts for 80 percent of the country's total production in the field of electric-power engineering and meets 90 percent of the corresponding needs of the engineering industry, of the metal-working industry, and of other important branches of the Czechoslovak economy. Moreover, about 60 percent of its production is sold in foreign markets.

ZAVT Prague

(Zavody automatizacni a vypocetni techniky--Automatization and Computer Engineering Works)

ZAVT Prague is the largest Czechoslovak producer of devices and equipment for the automated regulation of diverse technological and productive processes, as well as of analog and digital computers, inclusive of the corresponding peripheral devices. The production program also includes telecommunications equipment, office machines, tools, and hunting and sporting weapons.

This national enterprise consists of 11 producing, supply, assembly, and commercial companies as well as 3 research institutes. The number of employees amounts to about 47,000 people, with 10 percent of these working in research.

A considerable portion of its products is exported to CEMA countries, particularly on the basis of agreements on production specialization and cooperation.

TESLA Prague

TESLA Prague has over eight producing firms and two reserach institutes with more than 30,000 employees, and it concerns itself with the manufacturing of industrial electrical and electronic products--above all, products for the radio and telecommunications industry such as telephone and telex exchanges, telephone transmission equipment, and radio and television transmitters, inclusive of studio equipment.

TESLA Brno

This national enterprise is the supplier of measuring and laboratory equipment, components, entertainment electronics, communications equipment, and electronic medical equipment. The manufacturing emphasis in the six firms involved, which have about 16,000 total employees, is on products of the measuring and laboratory industry. Numerous products in this field are selling briskly in foreign markets.

TESLA Roznov

The electronic components being manufactured or developed in the six producing firms and two research facilities of this national enterprise are the country's most important source in the field of microelectronics. Thus, its integrated circuits and active, passive, vacuum, and structural components are being used in many branches of Czechoslovak industry, but above all in the engineering industry.

TESLA Bratislava

This production association is composed of companies in the field of entertainment electronics, such as producers of radio receivers, television sets, record players, and tape recorders. But also incandescent lamps and electronic pocket calculators are produced by this national enterprise, which has a total of 20,000 employees. Numerous products of TESLA Bratislava in the entertainment-electronics field are exported.

CHIRANA Stara Tura

CHIRANA has specialized in the production of medical equipment. Its production and development emphases are X-ray machines, sterilization equipment, complete dental treatment units, radiation treatment devices, and surgical instruments. This national enterprise also has at its disposal a capable firm for providing commercial-technical services, which undertakes the planning for equipping institutions in the public-health sector, scientific, reserach-oriented, and specialized places of work, and mobile medical facilities.

Tesla VUST

(Vyzkumny ustav sdelovaci techniky Praha--Research Institute for Communications Engineering)

This institute is oriented above all toward the sphere of microelectronics, toward structural and classical components, microwave engineering, numerically controlled industrial machinery, special materials for electronics, and toward new assembling technologies. At present, the activity of the institute is oriented above all to the change-over from the processing of analog signals to the digitalization of electronic equipment, to the automatizing of their functions, and to increasing their reliability by several orders of magnitude. In addition, its development work is concentrated on microelectronic circuits having a high level of integration, circuits and system elements with the use of computers, new assembly technologies for microelectronics, and on new materials for electronics.

This institute is the largest research and development base of the CSSR in the sphere of electronics. It maintains manifold relations with similar institutes in the CEMA countries and in capitalist industrial countries.

VUSE

(Vyzkumny ustav silnoproude electrotechniky Praha-Bechevice--Research Institute for Electric-power Engineering)

This institute is oriented toward the entire sphere of electric-power engineering and its applications in a wide variety of industrial sectors. One element of this research facility is the testing department for products of electric-power engineering, such as high-voltage switches, transformers, and protective switches.

Its main fields of interest include in addition the cooling of electrical machinery and equipment by using semiconductor engineering, technological and physical problems in connection with the manufacturing and use of semiconductor components, and technologies in the employment of new materials for the construction of machines and devices in the field of electric-power engineering, with an orientation toward their miniaturization.

This research institute has extensive relations with similar institutes in foreign countries, and at the same time it is an active participant in the cooperative efforts being made within the framework of the international organizations INTERELECTRO and INTERELECTROTEST.

VUMA

(Vyzkumny ustav mechanizace a automatizace Nove Mesto nad Vahom--Research Institute for Mechanization and Automation)

VUMA's field of activities include above all research and development in the following areas: Comprehensive rationalization of assembly work in mechanical-engineering enterprises, and also electrical treatment methods and the technological application of ultrasound. This institute likewise concerns itself with the development of packaging machines--for example, automatic cartoning devices and bulk packing machines. It is also effecting the prototype manufacturing of ultrasound generators, scouring, drilling, and welding machines, as well as of emulsifying machines.

Microelectronics the Key to the Further Development of This Branch

The development of science and technology plays a dominant role within the set-up of the Federal Ministry of Electrotechnical Industry. Here, the emphasis lies in the sphere of the basis of circuit elements for microelectronics. Those innovations are being effected which make possible a substantial raising of the density of elements on the chip and a further improvement of the technical parameters. Compared to the previous technological methods, new and more progressive methods are being introduced, such as electronic lithography. In the coming years, the predominant portion of the funds available will be spent on the renovation of the technological basis for microelectronics.

In the CSSR, the basic conditions were created for the production of integrated circuits for microprocessor systems back in the years 1976 to 1980. According to the plan, the 1980's will be marked by the manufacturing of microprocessors and the requisite semiconductor memories and ancillary circuits, the goal being to meet about 60 percent of domestic demand for these components by 1985. For economic reasons, there is no planning even for the future with respect to meeting all of the demand over the whole range of such products from the CSSR's own output. This coverage is to be accomplished within the framework of socialist economic integration in the CEMA, through the extension of specialization and the build-up of technological capacities for microelectronics.

The rapid developments in the manufacturing of microelectronic components are also increasingly reflected in the finished product. Thus, in the course of the seventh 5-year plan we will be building third-generation electronic communication exchanges, and the licensed production of electronic private branch exchanges will be getting under way. In comparison to the second-generation exchange systems with crossbar selectors, these require just 15 to 20 percent as much floor space, 10 to 40 percent less energy, and only 50 percent of the previous expenditure of time for the assembly and putting into service, as well as only 12 percent of the maintenance costs.

Within the same period of time, radio transmitters of up to 200 kW with a higher efficiency and lower installation and maintenance costs are to be developed, as well as television transmitters for zones IV to V which operate automatically, radio relay equipment, systems using satellite transmission equipment, and aircraft landing radar systems with a high level of digital processing of the signal.

One important task is the supplementing of industrial, metal-forming, and textile machinery, including industrial robots, with modern control electronics.

In measuring and laboratory engineering, special attention is being placed on those courses which ensure an above-average increase in productivity in measuring and laboratory work along with the possibility of broad applications in the national economy, as well as on those sectors in which the CSSR has many years of experience and contributes to the setting of international standards. These include, for example, electronic microscopy and spectroscopy, mass spectrometry, and chromatography. The results achieved recently indicate that the CSSR is mastering the task of manufacturing equipment for electronic lithography.

In the field of computer engineering, the CSSR will continue to develop and manufacture modern computing systems of the series ESER [Uniform Electronic Data Processing System], including new peripheral devices. In addition, within the framework of the Small Computer System (KRS) and in accordance with the agreements made among the CEMA member countries, a new series of minicomputers, control computers, and microcomputers as well as the relevant peripheral devices are to be developed.

In the sphere of ancillary equipment, the CSSR covers the basic line of products, which to a large extent it is exporting to the USSR. The most important export items are electric typewriters, punched cards, punched-card readers, card punching machines, punched-tape readers, and coordinate drafting tables.

Especially Close Cooperation With Soviet Union

Besides the multilateral cooperation effort among the socialist countries in the creation of the Uniform Electronic Data Processing System, cooperation in the creation of software systems, and the multilateral development of complete problem-oriented systems, there is also a whole series of bilateral activities.

The Soviet Union is the most important partner of the CSSR in bilateral international cooperation and at the same time it is a mainstay in the multilateral cooperation of the CEMA member countries in the fields of electronics and radio engineering.

At the beginning of the 1970's, there developed an increased expansion of economic and scientific-technical cooperation between the two countries in the field under investigation, at a time when the capabilities of the CSSR in this field were being overtaxed because of extraordinarily rapid developments in the inventory of semiconductor elements and integrated circuits. First of all, provisions were made for purchasing from the Soviet Union those products which were not being manufactured by the CSSR or whose manufacturing had been discontinued for economic reasons. An agreement on mutual specialization and cooperation in the manufacturing of electronic component parts provides that the Soviet electronic industry is to meet Czechoslovak needs over the entire inventory of high-frequency transistors, and if necessary it is also to cover any need for logically integrated circuits of the ECL [emitter-coupled logic] and TTL [transistor-transistor logic] types. Furthermore, the Soviet Union is supplying resistors and ceramic tubular capacitors. An important export item from the Soviet Union is color television picture tubes. Likewise there is fruitful cooperation in the development of resistors based on metal films. These are manufactured in a fully automated technological system which has been developed in the CSSR. The Soviet Union is concentrating on the development of particularly reliable resistive films.

In this effective cooperation, Czechoslovak and Soviet industry are laying great stress on the development of progressively more integrated circuits and corresponding technological equipment. In connection with integrated analog circuits for entertainment electronics, the CSSR has undertaken the obligation of carrying out the specialized development and manufacturing of integrated decoding equipment for the television signals of SECAM [sequentielle a memoire--a French color television system] and PALSECAM [Phase Alternating Line-SECAM] as well as of integrated low-frequency amplifiers with a power output of 15 W. Correspondingly, the Soviet Union has focused on integrated tone-control regulators and noise suppressors. This cooperative effort is to be expanded.

The most important part of Czechoslovak-Soviet cooperation in electronics lies in the development of technological equipment for the manufacturing of integrated circuits. The basis for this is the three-sided cooperative effort of the CSSR-USSR-GDR in the development of integrated circuits on silicon chips. This deepening of cooperation between the CSSR and the Soviet Union includes the joint development of technological systems for the manufacturing of integrated circuits with a high level of integration, such as microprocessors, semiconductor memories, and single-chip computers.

Also, the standing work group which concerns itself with equipment, automation devices, and control systems is effecting an active cooperation on a broad line of products. Testifying to this are two agreements on specialization and cooperation in production. The first agreement, made in 1975, embodies the inventory of equipment and devices for automation, whereas the second, from the year 1977, is exclusively focused on X-ray machines and equipment. Within the framework of the 1975 agreement, the CSSR is supplying to the Soviet Union electronic microscopes made by the national enterprise of TESLA Brno; in addition, it is supplying nuclear magnetic resonance spectrometers plus accessories, as well as a series of automation devices.

Another sphere of cooperation in electronics is reperesented by the numerical program control systems for industrial machinery, such as in the fields of sensors of physical-mechanical parameters, drives, computers, and relevant program documentation. At present, in a time when electronics already comprises 30 percent of the value of industrial machinery, the netowrk of applied NC [numerical control] systems has a considerable bearing on sales prospects in the world market.

(From "Foreign Trade of Czechoslovakia," edited)

(With abstract) AWID 22/27 May 1981

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CZECHOSLOVAKIA

BRIEFS

AGRICULTURAL REPORT--By 7 July winter barley was harvested from more than 19,200 hectares in the CSSR, which is about 75 percent of the area under cultivation. By the same date, rape was harvested from 4,596 hectares statewide. The wheat harvest has also begun in the southernmost Slovak districts. In the first 6 months of 1981 farmers in the Czech Socialist Republic exceeded the milk procurement plan by roughly 58 million liters, but delivered about 54 million liters of milk less than within the same period of 1980. The meat procurement plan was exceeded by 17,475 tons in the first 6 months of the year statewide; 33,532 tons of meat more were thus delivered than within the same period of 1980. The procurement plan for cattle was fulfilled 99.8 percent, the procurement plan for hogs 104.1 percent and the poultry procurement plan 101.1 percent. All Czechoslovak regions, with the exception of East Slovakia, also fulfilled the egg procurement plan in the first half of 1981, delivering 42.5 million eggs more than in the first 6 months of 1980. [AU121620 Prague RUDE PRAVO in Czech 8 Jul 81 p 2 AU]

PROCUREMENT IN SLOVAKIA--The procurement of animal produce in Slovakia during the past 6 months was overfulfilled in all indexes; 232,550 tons of slaughter animals, that is 101.4 percent of the total plan, were procured. The figure for slaughter cattle was 81,844 tons, or 101.4 percent; and for slaughter pigs 137,470 tons, or 101.5 percent. A total of 701,885,000 liters of milk have been procured, or 100.4 percent of the planned amount; and 384,972,000 eggs, or 101.7 percent. [AU121620 Bratislava ROLNICKE NOVINY in Slovak 4 Jul 81 p 1 AU]

GOLD, SILVER IN SLOVAKIA--In 1980, geologists of the Rudne Bane [ore mines] enterprise of Kremnica took 1,056 tons of samples from the Sturec mountain's Schraemen vein, from which they extracted 15.25 kilograms of gold and silver. It has been estimated that 1 ton of the ore yielded approximately 2.5 grams of gold and 29 grams of silver, which--in view of the current price of the two metals--would make large-scale surface extraction profitable. According to unconfirmed estimates, the Kremnica deposit contains "several tens of tons of gold and several times more of silver." [AU121620 Bratislava PRAVDA Sunday Supplement in Slovak 12 Jun 81 p 10 AU]

PLATINUM RECYCLING--A method of recycling platinum from exhausted industrial catalysts has been developed by the Nuclear Research Institute in Rez. The method is founded on the results of a study of volatile fluoride and enables isolating platinum, by 99 percent, also from initial materials containing very little platinum. The recycling method has been successfully tested by processing exhausted catalysts and the lining of incinerator furnaces. [AU121620 Prague ZEMEDELSKE NOVINY in Czech 8 Jul 81 p 8 AU]

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ACHIEVEMENTS OF GREAT PLAINS OIL, NATURAL GAS ENTERPRISE HIGHLIGHTED

Budapest NEPSZABADSAG in Hungarian 19 Jun 81 p 5

[Article by Kalman Horvath: "Twenty Years--Tenfold Production"]

[Text] The Great Plains Petroleum Production Enterprise was created in 1951 with headquarters in Mezokeresztes. Its purpose: to open up the hydrocarbon reserves in the area indicated by its name. The first ten years were characterized by accumulating strength, getting ready for the big tasks later. The enterprise's headquarters were moved to Szolnok in 1960. At the same time drilling towers arrived in the Oroshaza and Eger regions. In later times the greeting "Good luck!" known so well to oil miners was also heard in many other places.

New [Oil] Fields, New Technologies

This year the Great Plains Petroleum and Natural Gas Producing Enterprise (it has been known by this name since 1965) won the decoration Red Flag Order for Work. Twenty years ago perhaps nobody thought of recognition of such a high level. The 330 workers it had at that time (including eight engineers) helped bring to the surface about 140,000 tons of petroleum each year. But in the last decade the country's largest mining enterprise (based on the heating value of the hydrocarbon produced) has been headquartered in Szolnok. In the time period between 1971 and 1980 the enterprise produced 15.4 million tons of petroleum, 49.2 billion cubic meters of natural gas, 1.5 million tons of propane-butane gas, 1.8 million tons of gasoline, and 155,000 tons of isopentane. The enterprise's employees brought to the surface 50 percent of the energy sources produced in this country, [including] 80 percent of the petroleum and 89 percent of the natural gas.

Managing director Aladar Papa explained the high honor with more data, in addition to those listed above:

"In the previous decade we implemented investments in the value of one billion forints per year. Our production results prove that the forints spent on our improvements did not represent money thrown out the window. We have opened up fields in Ferencszallas, Sarkadkeresztur, Battonya, Kismarja, Algyo, Asotthalom, Kisujszallas, Kaba, Ebes, Ulles and Hajduszoboszlo. The most significant ones are the areas in the vicinity of Szeged. Soviet and East German enterprises and institutions helped plan and implement the facilities. One of the results of cooperation is the bilateral water injection technology introduced in Algyo.

In 10 years we produced an additional 5 million tons of petroleum with this method. Of course, we considered that job satisfaction for our workers was even more important than mechanization. We provide transportation for them in modern buses now, and there are industrial physicians in every location to protect their health. We also take care of their education. In 1970, 36.5 percent of the manual workers had less than an eighth grade education. Today the ratio of those with less than eight years of education is 9.4 percent. During this time the number of skilled workers increased by 50 percent. Our socialist brigades also deserve to be mentioned: they sponsor more than 100 institutions for children, and perform an average of 40,000 hours of volunteer work per year."

The major enterprise has four facilities: in Eger, Oroshaza, Hajduszoboszlo and Szeged; and according to Aladar Papa, the one in Szeged is the most significant one. Jozsef Baros, one of the pioneer oilmen recalls the stroke of chance responsible for its coming into existence:

"In 1965 I was manager of the Szandaszolos gas depot. On 19 August my superiors ordered me to report to Tape at express speed [sic]. I was told on the telephone that the prospectors had found oil while looking for thermal water. Harvest had already been completed in Tape, and oil sparkled on the producer cooperative's grain fields. The people were loitering around, looking at the sloppy spot which was increasing in size hour by hour, and kept saying that this is a natural disaster. With a farmer's eye they saw the spoiled, killed producing soil. Later they came to see it and understand it that the oil offered them the gift of job opportunities, modern technology, and a real sense of vocation. The people working here know well that their work is indispensible for the country.

Twenty Billion Forints per Year

The actual truth is that the Szeged plant provides 90 percent of this major enterprise's petroleum, 60 percent of its natural gas, 80 percent of its propane-butane gas, 90 percent of its gasoline, and 100 percent of its isopentane. By the way, the facility was established in August 1966 by 24 people including one engineer and three technicians. At the present time there are 88 college graduates and 380 technicians among the 1,620 employees. Of the manual workers, 63 percent are journeymen and 31 percent are trained workers. [At times] there were more people working here, yet those leaving are not missed. The jobs of 35 people have been eliminated by having the operators of tank farms complete the boiler fireman training courses. Twenty-one workers of four gas collecting stations were relieved of the job of watching the instruments by dedication of the Szeged data collection center. The technical experts are striving to install the most modern production tools and methods. For example, the ground layers were encouraged to cooperate with the oilmen by injecting various solutions [into the ground]. The work system "Work Without Errors!" has been introduced, and the financial incentives to workers have been reinforced.

Plant manager Aladar Juratovics describes the main stages of the plant's growth:

"A decade and a half ago we operated five oil wells. Today we have 380 oil wells, 75 gas wells, 180 water repressurization wells and 40 auxiliary wells. In addition to the Algyo area which was opened up first, we have been mining hydrocarbons in Asotthalom since 1969, in Kelebia since 1972, in Moravaros since 1974, and in the Ferencszallas area since 1975. The fixed asset value of our plant is 5.5 billion forints, and its annual sales income is 20 billion forints at current prices. No matter how strange this sounds, the world's energy crisis has not changed our lives. A central decision has been made concerning our growth during the Third Five-Year Plan; when oil prices shot up in 1973, we were already working on implementing it. We are managing our existing resources rationally: We could bring more oil and gas to the surface than the amounts we are producing, but production costs would be higher and we would risk premature exhaustion. Thus we do not intend to increase the quantitative indices. It is true, however, that even maintaining the present levels is becoming more and more difficult because of water intrusion into the fields, and because of the decreased layer pressure which helps production.

Instead of Law Suits

Until oil was discovered there, Csongrad [megye] had traditionally been an agricultural megye. After the mid-1960's the producer cooperatives had to adjust to the new situation. Many of them were reimbursed for crop damages. The plant cultivates its agricultural relationships. We lend machinery to the farms, supply gas for the crop driers, and offer the wells which produce no oil but yield thermal water, to the horticultural branches [of producer cooperatives]. In the last 15 years wise reasoning has always prevailed in the debatable issues: no Csongrad megye TSZ [producer cooperative] has filed suit against the oil industry.

[Photo by Jozsef Pinter. Caption: "A whole country watches the work in progress at the Algyo gas plant."]

8584
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INDUSTRIAL POLICY IN SIXTH FIVE-YEAR PLAN EXAMINED

Budapest NEPSZABADSAG in Hungarian 24 Jun 81 p 10

/Article by Zoltan Roman, director of the Industrial Economics Research Group of the Hungarian Academy of Sciences: "The Industrial Policy of the Sixth Five-Year Plan"/

/Text/ For decades industry was the driving force for the development of our economy. But in 1979-1980 production growth halted and even this year it has been very modest. This could be a sign, whatever the disease, that a cure has begun--with proper therapy.

Technical development, the level of leadership and organization and the increase in productivity did not keep pace with the increase in our industrial production. Coupled with unfavorable external economic changes this led to an increasing foreign trade balance deficit and it turned out that this trend could be stopped only by holding back growth. The switch of industry to a new developmental track began with the December 1978 resolution of the Central Committee of the MSZMP. To continue the previous simile, we withdrew the fever reducers from our industry so that it might recover on its own and with more effective help and become capable of a healthy and less subordinate adaptation into the world economy.

Conditions

This will require industry in the years ahead to solve tasks in the areas of improving competitiveness and quality performance and modernization of the production structure which were put off in earlier years even under more favorable conditions and more amply supplied with resources. We must order the goals of enterprise work and of industrial guidance to convert to the new developmental course; we must review what means we have and how these can be adapted more efficiently to realize these goals; and we must see if our organizational and decision making system is in harmony with the new requirements and adequately aids their realization. Industrial policy can integrate all this.

Several years ago many still rejected the argument that certain actions to develop our economic policy and economic management system might not ensure in themselves a solution to the qualitatively new tasks confronting our industry in such a difficult period and, that this might require an industrial policy which deliberately links the goal and means and organizational systems. Today (somewhat late) this idea is accepted unanimously that working out an industrial policy conception is one of the chief tasks of the new Industrial Ministry and that research which anticipated the needs in this case can certainly be well used in this work.

Our Sixth Five-Year Plan, approved by the National Assembly in December 1980, defines the outlines of an industrial policy conception which will shift industry to a new developmental track but a detailed working out of the numerous elements of this conception and binding the elements of industrial policy into a mutually strengthening unity still stands before us.

The previously cited December 1978 resolution of the Central Committee of the MSZMP strikingly formulated the new requirements deriving from our situation in this way: "In management and in everyday practice work we should give priority to questions of the economic balance.... The key question for future work is that by increasingly putting quality and efficiency factors in the forefront we will ensure an improvement in the situation of the national economic balance.... Production should grow more quickly there where it will serve to clearly improve the balance; elsewhere it should be moderated."

Goals

The events of 1979 and 1980 proved the correctness of this resolution and the 12th party congress took a stand to this effect. On the basis of this the Sixth Five-Year Plan provided the following rank ordering of economic policy goals: 1. restoring and strengthening the national economic balance situation of the people's economy including the foreign economic balance; 2. in the interest of this, to considerably decrease domestic consumption growth as compared to national income growth; and 3. increasing the efficiency of social production and strengthening the export oriented developmental trends.

The future tasks for industry and for industrial policy derive primarily from this last goal and they are summarized by the plan in this way: a more effective practical application of the leading scientific and technical achievements; a swifter modernization of the production structure, increasing international competitiveness; strengthening the qualitative aspects of development; better incentives and respect for creativity; increasing the independence, initiative and responsibility of production units; and improving the level of leadership and organization.

We have to build up the new goal system of industrial policy from these tasks in such a way as to discover the linkages and clashes between the several goals and work out the conditions and programs to realize them. Finally, we must bring all this into a uniform concept with appropriate modifications in the price system and economic regulator system and in the organization of industrial management so that the goal systems of the enterprises and of industrial management should change in a similar way. Naturally there will continue to be clashes and conflicts among the several elements of the goal system, among the bearers, representatives and realizers of these, but we can count on a healthier resolution of these if they are treated more openly.

The methodology to realize these goals in the Sixth Five-Year Plan has been expanded and worked out more comprehensively than in previous ones.

Means

In addition to developing the price system and regulators, the plan defines regulation as a whole more completely and sets forth very important guidelines: "...the normative character of regulation will be strengthened, various individual supports and exemptions will be gradually reduced and eliminated.... The decision making spheres of ministries and enterprises must be defined more clearly, to better avoid the necessity or opportunity for direct, operational intervention." This shows a definite aspiration to do away with the so-called shadow mechanisms. The plan is more open than earlier ones, it contains fewer numerical prescriptions, it sets as a task a further modernization of national economic planning and it provides guidelines for the development of the decision making and organizational system and--briefly--for the development of enterprise management, leadership, planning and organization.

One of the ys to the success of industrial policy is whether or not there is harmony between the goal system and the methodology. The methodology developed in the Sixth Five-Year Plan and the resolutions linked thereto basically satisfy this requirement but a number of its new elements have not yet entirely stood the test of time or have not been worked out and tested adequately. We should further form and improve the new producer price system and pricing mechanism, introduced at the beginning of 1980, to strengthen its favorable effects on enterprise behavior and moderate its unfavorable effects. The organizational modifications which went into effect at the beginning of 1981 gave new functions to the National Material and Price Office and to the Hungarian Chamber of Commerce mastering the performance of these will require time.

We are now working on a methodology to develop innovative activity; we must still clarify a number of questions of open planning--the continuity of planning, the link between plans with different time spans and between enterprise and national economic planning. If we regard this as a natural learning process, if we watch the actual side effects of the certain means which frequently clash with our goals and if we make quick and flexible use of every experience--then our switch to the new developmental track determined by efficient-qualitative performance can be shortened.

Another basic condition for this is to develop the organizational-decision making system and the social-political environment so that it will help to strengthen the new elements of the methodology and the planned functioning of the entire mechanism of the economy.

In regard to the enterprise structure of industry 1980 represented the beginning of the change. High level decisions stopped the centralization process which continued even after 1968. The idea became predominant that we should develop a system of small, medium and large enterprises which supplement one another in many ways and that we should strive to see that this system function with greater sensitivity to market influences and with less and less external intervention and flexibility. In any case the enterprise form with many locations must prove itself with its accomplishments; successful enterprises should grow; enterprises in a difficult situation should receive aid only for a restricted time and should not receive absolute protection; reductions and the elimination of jobs and even of production units cannot be avoided even in our socialist economy. A series of measures serve a closer market oriented link between production, research and sales and the development of the industrial infrastructure. These are the essential guidelines of the industrial policy of the Sixth Five-Year Plan. We must overcome many difficulties and much resistance to realize them but without this the other tools of industrial policy cannot bring the expected results.

Organization

January 1981 also brought substantial changes in the organizational system of industrial management. The most important of these was the creation of the Industrial Ministry, the role of which is new, the determination to put industrial policy and developmental tasks in the foreground as opposed to operational management. Another substantial change is the already mentioned expansion of the tasks of the National Material and Price Office and of the Hungarian Chamber of Commerce. At the same time, as part of a larger program, there were a few changes in the system of governmental economic management also.

These organizational changes opens ways toward an ever more rational, more efficient management and decision making system which takes better account of incentives and makes possible a more open treatment of them. This is supplemented by those efforts which are directed at greater respect for creative work, encouraging innovation, strengthening the receptivity for innovation and increasing democracy in every area of social life. The success of the economic and industrial policy of the 1980's will depend to a significant degree on whether or not we move ahead consistently on this path.

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